

THE
MEDICAL EXAMINER.

A
Semi-Monthly Journal of Medical Sciences.

EDITED BY N. S. DAVIS, M.D., AND F. H. DAVIS, M.D.

No. VII.

CHICAGO, APRIL 1, 1874.

VOL. XV.

Original Communications.

HAVE WE ANY CHOLAGOGUES?—ALUMNI PRIZE ESSAY.

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THIS has lately been strongly disputed; yet many, from their observation of the effects of certain medicines, still think that there is some foundation for the ancient belief in them.

We find some confusion, however, in the signification attached to the word. It is usually defined "medicines increasing the flow of bile." It is often used as if signifying "medicines increasing the *secretion* of bile."

Mercury is usually placed at the head of this class of medicines, when such a class is recognized; yet there is much dispute in regard to the effect of that drug. Stille quotes, and apparently indorses, the language of Thudicum, that "calomel is not a

cholagogue, but decreases the secretion of bile."* Yet he elsewhere says:† "The repeated use of this medicine (calomel) is known to produce derangement of the hepatic function;" implying that it is by overstimulation of that function. He also quotes this language of Budd:‡ "When the liver has become accustomed to the stimulus of mercury, no other medicine will sufficiently excite its action. * * It increases the activity of the liver at first, but seems to leave it weaker than before," etc.

It is impossible to explain the contradictory language of Stille, except by supposing that he intended to give

* Page 683, Vol. II., Third Edition *Ther. and Mat. Med.*

† Page 710.

‡ Pages 711-712.

a summary of the diverse opinions held upon this subject.

This diversity is certainly great. Some think that the flow of bile is much increased by mercury and other agents; and others that it is unaffected or decreased by their use.

Perhaps the most famous experiments of the many made on this subject, were by a committee of Edinburgh physicians, upon dogs, with different substances, including calomel, taraxacum, and podophyllin. Their investigations went far to overturn the belief in the specific action of these substances on the secretion of bile.

There are, however, some objections to these experiments. They were made upon lower animals; and, however judiciously selected these animals may be, we cannot be certain that the effect upon them is the same as upon man. The experiments were made by the establishment of biliary fistulæ. No doubt this was carefully done; yet the effect of the drugs may not have been the same as if the bile-ducts had been left undisturbed in their connections with the duodenum. They were made in a state of health, so far as known, of the animals experimented upon; the action may be thought different from what it would be in pathological conditions. The last I do not consider a serious objection. The physiological action of a drug is usually a fair indication of the character, at least, of its effect in pathological conditions. In the latter case, the action may sometimes appear greater; but I am not aware that any drug has a stimulating action upon an organ or function in a diseased condition, on which it has no effect in health.

I have performed some experiments to obtain information on this subject, to which the first two objections do not apply. How far they will aid in the solution of this problem, is for my co-laborers in this field to judge.

The experiments were made by testing liquid drained from fæces for bile, by Pettenkofer's test, substantially as described in *Dalton's Physiology*.* I made a solution of cane sugar, one part; water, four parts. One drop of this solution was added, in a test-tube, to about a fluid drachm of the liquid to be tested, and an equal quantity of sulphuric acid added. If bile was present, a bright, cherry-red color was at once produced, soon followed by a lake, and that by a rich purple.

I first practiced testing water with which I had mingled ox bile. I found the tests quite plain and reliable, and not affected by slight variations in the proportions of the reagents. If I added the sugar solution without adding the bile, the sulphuric acid produced a brownish red color, which gradually became a distinct brown. If too much sugar was added, this would obscure the reactions when bile was present; but with care, two drops of bile to a fluid drachm of water would produce the reactions promptly. One-half, or even one-fourth, of this proportion of bile would produce them, but with some delay.

I practiced these tests with ox bile until I considered myself familiar with the different reactions. I also repeated them at different times during the course of my experiments, to

* Page 185, Third Edition.

refresh my recollection, to test reagents, and to observe how the different liquids were affected by temperature.

Dalton states that other substances present, acted upon by the sulphuric acid, may obscure the reactions; but that * "no other substance is liable to be met with in the intestinal fluids or blood, which would simulate the reactions of the biliary matters." He also says that † the red color alone is not sufficient as an indication of bile. It is the lake and purple colors alone which can be regarded as really characteristic of the biliary reactions."

In testing liquid filtered from fæces, I found that the action of the acid produced different shades of brown, more or less resembling lake and purple. These I concluded to be from the effect upon bile in greater or less degrees of decomposition; it might have been partly from matters derived from other sources. These reactions often resemble the brown produced by the action of the acid upon the sugar solution; and great care is sometimes required to distinguish them. I do not think that I committed any errors in this way, however. In most of the experiments it will be noticed that diluted solutions were tested, and gave reactions weaker in proportion to the degree of dilution. In such a case, the reactions could not have been from the action of the acid upon sugar, as the amount of the sugar solution added in each case was as nearly equal as it could be made.

I took this method of testing fæces, because I was at a distance from the means of making more delicate tests,

or quantitative analyses. With the means at my command, the tests could not be made sufficiently accurate to indicate the exact proportion of bile discharged. They are useful, principally, for the comparison of the discharges following the use of certain substances with those occurring naturally.

It was only after some experience that I arranged the proper proportion of water to be added, and other minutiae. Had there been time, I should have completed the series in this uniform manner. I was unable to do this; but these variations do not affect the general result. In making the experiments, the fæces were received into ordinary self-sealing fruit-jars, weighed, and mixed with water. They could thus be treated without being very offensive. After they were mixed with water there was less odor, and the filtered liquid was but little offensive.

The experiments are numbered merely for reference here, without regard to the time when they were made; but I was careful to make no experiment in less than six days after a previous one with drugs; also, to make none when my system did not appear to be in a healthy condition.

EXPERIMENT WITH NATURAL FÆCES—*First Experiment, May 20th, 1873.*—Weight of fæces four ounces; to three and a half ounces added seven fluid ounces of water; mixed, and filtered. Reactions not biliary; reddish yellow, followed by reddish brown.

Second Experiment, July 15th, 1873.—Weather very warm; weight of fæces nine and a half ounces; added same number of fluid ounces of water, and mixed; stood over night and fer-

* *Phys.*, Third Edition, p. 187.

† *Phys.*, Third Edition, p. 186.

mented; liquid more than usually separated from solid matters. Biliary reactions quite distinct and rapid; colors rather dark. By accident, the dilutions not tested.

Third Experiment, July 25th, 1873.—Bowels rather constipated for three days; weight of fæces two ounces; added six fluid ounces of water; mixed, and filtered. Biliary reactions pretty prompt; colors rather dark; lake and purple not very distinct, but perceptible. Diluted one-half, the cherry red was tolerably distinct; the others not.

Fourth Experiment, July 26th, 1873.—Free evacuation; weight of fæces eight ounces; added twice the number of fluid ounces of water; mixed, and filtered. Obtained rather dark cherry-red and brown, resembling lake and purple. Diluted one-half, reactions nearly as distinct; again diluted one-half, a brownish red tinge only.

Fifth Experiment, August 5th, 1873.—Bowels rather constipated for several days; last operation thirty hours before; fæces nearly solid; weight five ounces; treated same as last. Obtained pretty prompt and distinct cherry-red, and faint but perceptible lake and purple. Diluted, the reactions were perceptible, but not distinct.

Sixth Experiment, August 7th, 1873.—Bowels natural; fæces of medium consistence; weight eight ounces; treated same as last. No biliary reactions.

[Other experiments with natural fæces will be found given as parts of some of those with drugs.]

EXPERIMENTS WITH SALINES—
Seventh Experiment, December 4th, 1872.—Usual evacuation at 9 A.M.;

two hours after, took mag. sulph. and pot. bitart., of each one half ounce; water, four ounces: between 1 and 2 P.M., had three copious evacuations of liquid fæces; weight twenty ounces; added ten fluid ounces of water, and mixed. No distinct biliary reactions.

Eighth Experiment, January 29th, 1873.—Usual evacuation at 8 A.M.; between 6:30 and 11:30 P.M., took mag. sulph. and pot. bitart., of each six drachms, in divided doses: considerable peristaltic motion, and some pain, from 8 P.M. to 12:30 A.M.; between the last time mentioned and 1:30 A.M., there were three rather copious discharges, mostly liquid; weight sixteen ounces; added same number of fluid ounces of water; mixed, and filtered. Obtained cherry-red promptly; lake and purple rather slow, and not distinct. Diluted, gave reactions nearly as distinct; again diluted, perceptible, but much less distinct.

Ninth Experiment, May 29th, 1873.—Usual evacuation at 9 A.M.; at 5 P.M., took mag. sulph. and pot. bitart., of each two drachms, in solution; and at 8:30 a similar dose: between 6 and 10 P.M., some nausea, peristaltic motion, and pain, perceived; slept naturally till 5:30 A.M.; at 6 and 9 A.M., had somewhat copious semi-liquid discharges; color dark greenish brown; weight about sixteen ounces; to twelve ounces added same number of fluid ounces of water; mixed, and filtered. Obtained faint cherry-red, indistinct lake, and no purple. Diluted one-half, gave reddish brown only.

Tenth Experiment, August 14th, 1873.—A.M., natural evacuation of buttery fæces; weight six ounces;

added twice the number of fluid ounces of water; mixed, and filtered. Obtained only brownish red color, growing darker. At 6 A.M. next day, took mag. sulph. and pot. bitart., of each four and a half drachms, in solution: between 8 and 9 A.M., some peristaltic motion perceived; at 10 A.M., took similar dose: between 11 and 12, had three copious evacuations; fæces mostly liquid; weight twenty-four ounces. Treated as last; obtained only slight tinge of brown.

EXPERIMENT WITH ALOES—*Eleventh Experiment, January 13th, 1874.*—Usual evacuation, A.M.; at 6:30 P.M., took aloe soc., four grains, and ext. hyosc., one grain; at 9:30 P.M., took similar dose: perceived slight pain in bowels, and peristaltic motion, between 4 and 6:30 A.M.; between 6:30 and 9:30 A.M., three copious evacuations of buttery fæces; color light reddish brown; weight twenty-five ounces or more; second evacuation, nine ounces; to this added twice the number of fluid ounces of water; mixed; kept in warm room forty-eight hours, and filtered. Reactions variable, but not resembling those of bile.

EXPERIMENTS WITH FRUIT—*Twelfth Experiment, February 8th, 1873.*—At 4 P.M., ate two good-sized sour apples; at 8 P.M., the same: between 6 and 7, also between 8:30 and 10 P.M., there was some sensation of fullness, and peristaltic motion of the bowels. At 8 A.M., passed ten ounces of dark brown fæces; rather more, and rather less solid than usual; added same number of fluid ounces of water; mixed, and filtered. Obtained prompt and distinct biliary reactions. Diluted one-half, equally so; again diluted, not as prompt, but retty distinct.

Thirteenth Experiment, January 20th, 1874.—A.M., natural evacuation of light brown, somewhat buttery fæces; weight eleven ounces; added eighteen fluid ounces of water; mixed; kept in warm room forty-eight hours, and filtered. Obtained very slight tinge of cherry-red, followed by reddish brown. At 3 P.M., ate three medium-sized, moderately sour apples; at 9 P.M., did the same: at 8 A.M., passed fæces; weight nine ounces; rather darker, and less solid than the day before; added eighteen fluid ounces of water; mixed; kept in warm room forty-eight hours, and filtered. Reactions resembled the biliary; not distinct.

EXPERIMENTS WITH TARAXACUM—*Fourteenth Experiment, December 29th, 1873.*—At 9 A.M., natural evacuation of semi-solid brown fæces; weight, five ounces; added twice the number of fluid ounces of water; mixed; kept in warm room ten hours, and filtered. Obtained rather dark cherry-red, and shades of brown resembling lake and purple. During the afternoon, took fluid ext. taraxacum, three drachms, in two doses: at 9 A.M. following, passed three ounces of brown, nearly solid, fæces. Treated same as last; tests made in too small tube, and not reliable, but seemed to resemble biliary rather more than the day before. At 9 A.M. following, passed four and a half ounces of rather light brown, nearly solid, fæces; treated same as last, only kept twenty-four hours in warm room. Very carefully tested, the colors resembled biliary but little.

Fifteenth Experiment, February 2d, 1874.—At 9 A.M., natural evacuation of light brown, nearly solid, fæces; weight six ounces; treated as last, only kept forty-eight hours in warm

room. Obtained dark, indistinct cherry-red, and shades of brown resembling lake and purple. Diluted, gave reactions nearly as distinct; again diluted, perceptible, but not as distinct. During that and the next day, took fluid ext. tarax., six drachms, in divided doses: at 10 A.M. following (4th inst.), passed three ounces fæces; rather less, lighter color, and more solid, than usual. Treated as the last: obtained similar reactions; perhaps a little more distinct.

Sixteenth Experiment, February 9th, 1874.—At 9 A.M., usual evacuation of light brown, nearly solid, fæces; weight six ounces. Treated as last, except stood but twenty-four hours before filtering: reactions prompt, and resembling biliary. Diluted one-half, less prompt and distinct, but perceptible. During that and following day, took fluid ext. tarax., one ounce, in divided doses: at 8 A.M. next day (11th inst.), passed seven ounces of light brown fæces, nearly solid. Treated same as last: reactions similar, but rather more distinct.

EXPERIMENTS WITH CALOMEL—

Seventeenth Experiment, January 15th, 1873.—Usual evacuation at 9 A.M.; at 3 P.M., took hydrarg. chlor. mit., twelve grains: between 5 and 6 P.M., perceived some nausea, and peristaltic motion. At 6:30, took mag. sulph. and pot. bitart., of each one drachm, in solution: between 7 and 8 P.M., had one solid and three copious liquid discharges; weight twenty ounces; added same number of fluid ounces of water, and mixed. Obtained cherry-red promptly; and lake and purple with a little delay; all quite distinct. Diluted one-half, the

reactions were nearly as prompt and distinct; again diluted, they were perceptible, but quite indistinct.

Eighteenth Experiment, December 19th, 1873.—At 9 A.M., rather free natural evacuation of dark brown, buttery fæces; weight eight ounces; added twice the number of fluid ounces of water; mixed, and filtered; room cold; liquid probably chilled, not frozen; filtered liquid not as dark as usual. Obtained only brownish red colors. At 10 P.M., took hydrarg. chlor. mit., twelve grains: between 3:30 and 5 A.M., perceived some nausea, peristaltic motion, and pain; between 5 and 6:30 A.M. five tolerably copious evacuations of thin brown fæces; weight thirty-two ounces or more; nine ounces, including part of first three and all of fourth evacuation, were treated same as last; temperature about the same. Reactions similar; hardly as distinct.

This experiment was not very satisfactory, but showed that no very marked increase of biliary flow had taken place, although the appearance of the fæces was what is considered characteristic of "bilious passages." To ascertain whether cold had prevented the reactions, I tested a mixture of ox bile and water, which had been frozen. I found that the reactions were produced, but that the colors were not exactly the same. I also tested a mixture of ox bile and water, which had been exposed to sufficient cold to chill it—in fact, to freeze a small portion of it. I found that this did not appreciably change the reactions. As this was fully as great a degree of cold as that to which the specimens were exposed, I concluded that this did not modify the results, except so far as it hin-

dered the complete solution of the secretions in the water added.

Nineteenth Experiment, January 26th, 1874.—At 8 A.M., natural evacuation of semi-solid, light brown fæces; weight six ounces. Treated as last, only kept in warm room forty-eight hours before filtering: obtained slight cherry-red color, and shades of brown considerably resembling lake and purple. Diluted one-half, colors nearly as distinct; again diluted, much less distinct. At 10 P.M., took hydrarg. chlor. mit., twelve grains: between 5 and 7 A.M., had four tolerably free evacuations of brown fæces, mostly liquid; weight twenty-five ounces or more. Portions of second and third evacuations, weighing eight and a half ounces, were treated as last: obtained similar reactions from all the dilutions; perhaps a little more distinct.

There was considerable difference in the reactions, at different times, in all the classes of experiments. Probably this difference was due, to some extent, to variations in temperature and in modes of manipulation; yet the variations were not greater than every one has observed in the amount, color, consistence, and odor, of healthy fæces.

The amount of bile discharged was not increased by taraxacum. This agent produced a constipating, rather than a laxative, effect; and to this I attribute the slight increase, in proportion, of bile by its use. Had there been an actual increase of the bile discharged, the proportionate increase, with less fæces, would have been much greater.

The proportion of bile discharged was not increased by calomel or other

cathartics; was sometimes probably decreased by them, especially by aloes and the salines. In regard to aloes, this is only inferred; in regard to the salines, this is shown by the tenth experiment, and may be inferred from the seventh and ninth. After the use of the latter, bile was detected only after prolonged peristaltic action, and then in only small amount. Peristaltic motion alone will not produce free discharge of the bile; if it would, there would have been such in the eighth experiment, according to my painful recollection.

When, after the use of cathartics, the proportion of bile detected was the same, of course the amount was greater, as the amount of fæces was greater. This was, probably, because much of the bile in the intestines was expelled, and not from increased biliary secretion. Had it been the latter, the proportion of bile would have been greater. The largest amount of bile detected was not more than an ounce and a half. Making all due allowance for errors, and for the obscuring of reactions by other substances, this is less bile than is contained, at any time, in the intestines.

The secretion of bile was probably not increased by any of the agents used. It may be objected, that more bile was secreted, and discharged into the intestines, and then absorbed, as most of the bile usually is. But bile is usually changed or decomposed by reactions with the other contents of the intestines before absorption. By the action of a cathartic, the contents of the intestines are hurried along too rapidly for either change or absorption of an

increased amount of bile. In the natural condition, nearly all the liquid contents of the intestines are absorbed. When a cathartic is given, the discharges are liquid, partly because more liquid is secreted or exuded, and partly because increased peristaltic motion does not give as much time for the liquids to be absorbed. Physiologists estimate the normal amount of bile secreted at about two and a half pounds in twenty-four hours, or about a pound in ten hours. If the flow of bile is increased by the use of calomel, it seems strange that all this bile should be absorbed, while the other liquids are discharged in such quantities.

It may also be said that there was more bile discharged into the intestines, but that it had not passed far enough down to affect the fæces. It may be difficult to prove that this was not the case; but we have no reason to believe that it was.

The liquid condition and brown color of the discharges produced by calomel are not produced by bile. If they were, the proportion of bile would be quite large; but there was very little detected, although the discharges were of the traditional color and consistence.

These results are different from what I expected, and from what I

announced from a much shorter series of experiments; but they have been carefully reached, and agree with those others have obtained in different ways. Clinically, especially in a miasmatic region, mercury may often be very useful, and may sometimes produce good effects which other remedies will not; but, in accounting for this effect, perhaps false pathology and false therapeutics have been mingled.

Much is laid to "torpid liver," which is quite as much inaction of all the nutritive functions, especially those of the intestinal glands. An impression upon these, often best made by calomel, may bring about a more natural condition, and the biliary secretion not be affected, directly, at all.

When there is really suspended secretion of bile, from hepatic congestion, cathartics may indirectly give relief by reducing portal congestion; and calomel will often do this more gently and thoroughly than any other cathartic.

But this series of experiments tends to confirm the conclusions of others, that we have no medicines possessing a specific power to stimulate the secretion or flow of bile.

February 12, 1874.

EFFECTS OF THE LONDON FOG.—The unusual density and duration of the recent fogs in London were exceedingly disastrous, causing the death of many persons affected with cardiac and respiratory diseases, and greatly augmenting the death-rate.

There were, altogether, about fifty patients taken to the various hospitals on account of accidents due to the fog. The number of deaths from diseases of the heart and lungs was 764 the week of the fog, and only 560 the previous week.—*N. Y. Med. Jour.*

WHAT PUS IS NOT.

BY LESTER CURTIS, M.D.

A FEW years ago Conheim published some observations on the white blood corpuscle, which confirmed the older observations of Waller and Beale, and called attention to them; for previous to this time they had attracted little notice, especially on the continent of Europe. These observations showed that, in inflammation, many of the white blood corpuscles pass through the walls of the capillaries, and appear outside of them. The corpuscles outside the vessels continue their amoebiform movements, and, possessing the power of locomotion, were called "wandering cells." (?)

At the time of these observations it was well known that the fresh pus corpuscle, also, had an amoebiform movement similar to that of the white blood corpuscle. Pus occurs as the result of inflammation; and where there is inflammation there are large numbers of wandering cells. Conheim concluded, therefore, that pus corpuscles came from the wandering cells, and, as the wandering cells came from the white blood corpuscles, therefore, that a pus corpuscle was a white blood corpuscle. He rejected as erroneous the previous opinion that pus could be derived from any other source than the white blood corpuscles.

Conheim's conclusion that the pus corpuscle and the white blood corpuscle are identical, has been widely accepted. It is due partly to the acceptance of this theory that the name "*leucocyte*" has arisen, a name

which is applied indiscriminately to the white blood corpuscle, the lymph corpuscle, the wandering cell, and the pus corpuscle. Some, in publishing their acceptance of the theory, have added the saving epithet "*morphologically*" to the "*identical*," evidently implying some doubt, after all, as to its correctness.

In spite, however, of the general acceptance of the opinion, it appears to me to be inconsistent with certain well-known facts. It is my purpose to present some of these facts, and show wherein they are inconsistent with the theory. I shall consider the subject from Conheim's standpoint: supposing that all pus originates from white blood corpuscles, although I consider the proof of such sole origin as far from complete.

In the first place, it by no means follows that, because a pus corpuscle is derived from a white blood corpuscle, it is identical with a white blood corpuscle. The white blood corpuscles are mere stages of growth, just as a chrysalis, or a tadpole, is a stage of growth. They have no particular function of their own, as, for instance, the red corpuscles have; they only exist in order that they may be developed into something else. If this is the case, it is not only supposable that, under the changed conditions of nutrition to which the wandering cells are subjected, outside the vessels, they should undergo a change; but it is difficult to understand how they should continue to be the same that they were within the vessels.

Mere similarity of form and appearance is, as we all know, one of the least reliable of resemblances; and the fact that a pus corpuscle appears to be like a white blood corpuscle can surely go but a short way towards establishing their identity. The sporules of fungi can often be crushed, and the softer, central portion can be freed from the envelope. When this is done, the central portion of the sporule may resemble a white blood corpuscle so closely in every particular, except, perhaps, in size, that even an experienced observer would be unable to distinguish them apart. Would any one, on this account, consider them to be identical? There must be other resemblances between two bodies besides form and appearance merely, to render them identical. They must correspond in all essential particulars; and if they differ in any essential particular, they plainly are not identical. Now let us see if pus corpuscles correspond in all essential particulars with white blood corpuscles.

The white blood corpuscles of every healthy person correspond, in every particular with which we are acquainted, with the white blood corpuscles of every other person; and while there may be, and probably are, points in which the corpuscles of every individual differ from those of every other individual, these differences are so slight that the corpuscles of one person may be substituted for those of another, by transfusion of blood, without disturbance of function. If, then, pus corpuscles are the same things as white blood corpuscles, all pus which has not a specific origin should be similar. I need hardly say, however, that this is nota-

bly not the case. No one would suppose for an instant that the pus from an ordinary abscess and that from a purulent ophthalmia were the same. Yet the bland and unirritating pus from the abscess, and the highly contagious pus from the purulent ophthalmia, may have had their origin in a simple, and perhaps similar, irritation; and the white blood corpuscles of the two individuals may preserve their similarity at the same time that the pus shows such great differences. Can things which differ from each other both be similar to the same thing?

Again, the physiological action of pus differs from that of a white blood corpuscle. White blood corpuscles may easily, and with safety, be transferred from the vessels of one individual to those of another; but if pus is injected into the vessels, the result is a serious disturbance. The experiment has been tried of injecting pus into the veins of an animal; a febrile action, dangerous to the life of the animal, is the result; and if some of the blood of this animal is injected into the veins of a second animal, a still severer disturbance than in the first animal is set up. If the blood of the second is injected into the veins of a third, a similar disturbance is set up; and so of a fourth, and so on. The introduction of pus into the veins of the animal has given rise to profound changes in its blood—an effect differing widely from the harmless result of the introduction of the blood corpuscle.

Again, the white blood corpuscles can become organized, and form tissue; or, at least, the wandering cells outside the vessels can become organized; and it is a well-known fact, that

from these wandering cells all inflammatory, new formations arise. Some, indeed, maintain that from such wandering cells are produced all the new growth of connective tissue, and all the new formations in the body. Pus, however, cannot become organized, as any one who has observed the mischief done by a small quantity of pus beneath the periosteum of a finger can well appreciate.

If pus, then, originated from a white blood corpuscle, it has lost the power of organizing; and who can tell how great is the difference which has resulted from that loss?

Again, if the pus from our purulent ophthalmia, which may have arisen from a simple irritation, be introduced beneath the lid of a well person, it will, in all probability, set up a disease similar to that in the eye from which it was taken. If a white blood corpuscle had the property of setting up disease, what surgeon would be skillful enough to avoid purulent ophthalmia? The pus from purulent ophthalmia, then, has not only lost the power of organizing, but has acquired noxious properties, which render it hurtful to the person in whom it originated, and dangerous to those with whom it may come in contact. Can any two things differ more widely than the blood corpuscle and this pus—the one a useful and necessary part of the

body, and the other a breeder of disease, and an object to be dreaded?

In what I have said, granting what I do not believe, that all pus originates from white blood corpuscles, I have tried to show:

1st. That white blood corpuscles, being in a transition stage, we have no right to expect that, in the changed condition of nutrition to which they are subjected, outside the vessels, they would continue to be the same that they were within the vessels.

2d. That mere similarity of appearance was insufficient evidence of identity.

3d. That different samples of pus are unlike each other; which they would not be if they were white blood corpuscles.

4th. That pus differs from white blood corpuscles:

a.—In the disturbance which it sets up when introduced into the vessels.

b.—In the loss of the power of organizing.

c.—In the frequent acquisition of contagious properties.

These are some, though by no means all, the reasons why I consider that pus is not the same thing as a white blood corpuscle. If I have established the point, it will be something gained; if I have failed, I would esteem it a favor to be shown my error.

CASE OF NEURALGIA OF THE TESTES CURED BY ELECTRICITY.—

The patient, a young man, free from all syphilitic disease, experienced such intense pain in the testes, that he urgently asked Dr. Felippi to perform castration. The case was carefully

made out to be neuralgia, independent of any affection of the testicle or of any accumulation of faecal matter; and in five sittings the patient was entirely cured. Dr. Felippi made use of a weak and direct constant current.—*L'Imparziale*, No. 16, 1873.

EMPYEMA.

By J. B. ROOD, LEMONT, COOK COUNTY, ILLINOIS.

THE patient, Russell Cleveland, aged seventeen years, was taken with measles in June, 1872, which was followed with hydrothorax. July 28th, 1872, Dr. W. P. Pierce was called in consultation, and found the following physical signs: Dullness over the left lung, and bulging out between the intercostal spaces between the second, third, fourth, and fifth ribs; pulse, 140, and seventy-five respirations per minute. The heart was pressed over to the right side. He was suffering from extreme anxiety, and suffocative symptoms, speaking with difficulty, and in a short, jerking voice. His countenance was blue; the extremities were cold; the respiratory murmur was everywhere absent on the left side. Dr. Pierce suggested that paracentesis be performed; but the patient and parents refused; but as the symptoms grew worse, they consented, and on July 30th, two days later, he performed paracentesis.

The chest was opened on the left side, three inches back from the left nipple, between the fourth and fifth ribs. About three pints of purulent fluid flowed out. He was immediately relieved, and was enabled to sleep. The wound was kept open, and washed out each day with a weak solution of carbolic acid. It continued to discharge from eight to ten ounces each day. His strength returned slowly, and during this last summer he has ridden out nearly every day

and was accustomed to hunt more or less during the months of July and August.

Four weeks ago the opening became closed, and for two weeks he seemed to feel much better, until March 1st, when he was taken much worse, which continued until March 8th, when he died.

The next day Dr. J. W. Comes and myself made a *post-mortem*. We found, in opening the chest, that the left thorax was filled with purulent fluid, at least two quarts. The lung-substance on that side was entirely gone; not anything left that would indicate that there was ever a lung on that side. The heart was on the right side; apex was between the fifth and sixth ribs, four inches from the sternum. The left auricle was directly under the center of the sternum, between the second and third ribs. The pericardium was adherent to the sternum, and was filled with pus. The left ventricle and auricle contained a white, glutinous substance, which I should think would weigh about an ounce and a half. The walls of the heart were very much thinned.

There was nothing abnormal in the condition of the right lung. The patient's pulse for the last year has been 112 most of the time. He was kept on tonics and cod-liver oil all the time.

RESTRAINT OF HÆMORRHAGE DURING OPERATIONS IN THE MOUTH.

BY E. ANDREWS, M.D., PROFESSOR OF PRINCIPLES AND PRACTICE OF SURGERY IN CHICAGO MEDICAL COLLEGE.

SOME operations in the mouth, particularly staphylorraphy and uranoplasty, are greatly embarrassed and very much prolonged by the following circumstances:

1. The operator and the anæsthetizer cannot both work at the same time, so that they are obliged to alternate—the operator ceasing his work whenever the patient begins to awake, in order that the anæsthesia may be renewed.

2. These operations, considering the small amount of tissue cut, are very bloody, compelling frequent cessation of work, to arrest the hæmorrhage and clear away the blood.

It follows that very often between the suppression of hæmorrhage, the clearing out of blood and mucus, and the repeated re-anæsthetizing, the surgeon gets a vexatiously small proportion of the time in which he can actually use his instruments.

The following successful experiment, to obviate these difficulties, was performed at the suggestion of my friend Dr. Ira Manly, of Markezan, Wis.

The patient being first etherized in the ordinary way, the mouth was held well open, by an instrument which I devised some years ago for this purpose, and have used ever since with excellent results. The paper cone and towel with which the etherization was first accomplished, was now laid aside, and Dr. Manly, taking an ether spray apparatus in his hands (such as is used for local anæsthesia by freezing), directed the spray upon the roof of the mouth; but not with such intensity as to produce freezing. The cold thus produced contracted the vessels, so that I was able to perform uranoplasty with comparatively little delay from hæmorrhage, or accumulation of mucus. At the same time, the patient was constantly inhaling the vapor of the spray, so that the anæsthesia was steadily maintained without interrupting my operative procedures. The result of this method was so admirable, that I desire to call the attention of the profession to its great advantages.

Chicago, No. 6 Sixteenth street.

A FORMIDABLE rival to the German Erbswurst has proved its virtues in the Russian expedition to Khiva. It is a biscuit composed one-third of flour of rye, one-third of beef reduced to powder,

and one-third of sauer-kraut also reduced to powder. Great relish for the food, and excellent health from its use, have been characteristic of the soldiers throughout the campaign.

Editorial Department.

HAVE WE ANY CHOLAGOGUES?—It seems to us that the author of the essay on this question, in the present number of *THE EXAMINER*, like most others who have experimented on the same subject, has made a mistake in looking for cholagogues among cathartics, or in regarding the active cathartic action of any medicine as a test of its power to increase the secretions of the liver, or of any other organ, except the follicles of the mucous membrane of the intestines. We learned, by simple clinical observation, many years since, that when any medicine was given in sufficient doses to act directly on the bowels as a cathartic in a few hours, it had little or no effect in increasing the action of any other organs. Indeed, few facts are more familiar than that profuse intestinal discharges, whether from cathartics or spontaneous diarrhoea, speedily cause a diminution both in the secretions of urine and in the evidences of bile in the evacuations. Hence, to test the action of any medicine on the liver, or any other secreting organ outside of the mucous membrane of the alimentary canal, it should be given in such a way as not to induce co-incident active evacuations in any other direction.

PROFESSIONAL CONFIDENCE.—The *Times* newspaper of this city has recently made a persistent effort to create the impression that Professor H.

A. Johnson, of this city, in an article published in the *Tribune*, March 3d, had grossly violated professional honor, and betrayed the sacredness of the relation between physician and patient, by using the following expression: "He (Storey) charges me with having withheld important facts from the profession. The only *fact of which I am aware, bearing on the case, and not stated, was, that she* (Mrs. Storey) *had been a prostitute.*" To make the allegation of this fact appear as a breach of professional confidence, it must be assumed that his knowledge of the fact was obtained by professional intercourse with the lady, or her husband. But the truth is, that not a word had ever passed between the doctor and his patient concerning *prostitution*, or any of its consequences. And the foregoing allegation, made in self-defence, was founded entirely on knowledge obtained from *public sources*, and was in no sense a betrayal of the confidential relations between the physician and patient.

AMERICAN MEDICAL ASSOCIATION.—This important national organization is to hold its next annual meeting in Detroit, Michigan, commencing on Tuesday, *June 2d*, 1874. We call special attention to this date, lest some might forget, as the time of meeting has more frequently been the first Tuesday in May. But the northern location of Detroit makes the first Tuesday in *June* much the more

pleasant time for such a gathering. We trust the profession throughout the North-Western States will appreciate the necessity of contributing its full share, both to the numbers in attendance and the interest of the occasion. There are some important constitutional amendments pending, to be acted upon at that meeting. Their object is, to make the Association a more directly representative body, by limiting the representation to State, District, and County medical societies, and cutting off all schools, hospitals, and other medical organizations. The proposition is an im-

portant one, and should be well considered.

ILLINOIS STATE MEDICAL SOCIETY.

—The next annual meeting of this Society is to be held in Chicago, on Tuesday, the 19th of May next. The profession in the city will cordially welcome their professional brethren from all parts of the State; and we hope to see a much larger number present than at any former meeting since the Society was organized. Let none forget the time, but come, each one prepared to contribute something to the interest of the occasion.

Society Reports.

TRANSACTIONS OF THE CHICAGO SOCIETY OF PHYSICIANS AND SURGEONS.

MEETING OF MARCH 23D, 1874.

Reported by Plym. S. Hayes, M.D.

THE Society met as usual, in the parlor of the Grand Pacific Hotel, the President in the chair.

The minutes of the preceding meeting were read and approved.

Dr. C. T. Parkes was unanimously elected to membership; and the names of Drs. Ralph E. Starkweather, W. H. Warn, and E. P. B. Wilder, were presented as candidates.

Dr. F. H. Davis then read a clinical report of operations on the mouth, which described Dr. I. Manly's method of rendering the hæmorrhage

less profuse, and at the same time continuing the anæsthesia.

Dr. Henrotin then exhibited an enlarged heart, and related the following case: The patient, a laborer, of foreign birth, and in previous good health, with the exception of an attack of pneumonia a year prior to his death; temperate; weighing about one hundred and seventy pounds—fell down when at work, and died in three minutes. He had been able to sleep in any position; had not had dyspnoea; and there was no dropsical effu-

sion, except in the pericardium. He had not been at work since last fall, but had been engaged in labor—the first time for months—only about two hours previous to his death. Upon opening the chest, the pericardium was found enormously distended, and pushed forward into the opening. This was punctured, and about fifteen ounces of clear serum evacuated. The pericardium showed no signs of inflammation. The heart, enormously enlarged, was then uncovered. Its right side was distended with dark fluid blood, and the right auricle was so large that it resembled a tumor. When opened, and measured transversely, the auricular walls were found to be ten inches in extent. The aortic semilunar valves were rigid and fixed, from a cretaceous deposit. There were no heart-clots; nor were there any clots found in the large arteries. The lungs were congested. The heart weighed thirty-two ounces.

A discussion then followed as to the direct cause of death, in which Drs. Henrotin, Hyde, Lyman, and others, participated.

Dr. Bartlett then read the Annual

Report of the Section on Pathology; the sub-sections on the pathology of the nervous system, syphilis, and cutaneous affections, making separate reports. All that was new or interesting in this branch of science, published in the medical periodicals of the past year, was collected and presented.

The Secretary read a communication from Dr. Quine, on the part of the Committee of Arrangements, in regard to entertaining the State Medical Society, which convenes in this city in May next. It was resolved, on motion of Dr. Hyde, that "this Society desires to co-operate with, and extend all requisite aid to, the Committee of Arrangements in providing an entertainment for the State Medical Society."

In furtherance of Dr. Owen's motion, that every member of the Society connected with the Staff of a hospital be added to the Committee on Clinical Reports, which was adopted at the meeting of March 9th, a list of names of those added to the Committee was read.

The Society then adjourned.

Gleanings from Our Exchanges.

THORACENTESIS.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT, NOV. 24, 1873.

From Boston Medical and Surgical Journal.

DR. LYMAN reported a case to show the good results of this operation.

The patient, a man aged twenty-six, had a cough, with pain in his

right side and dyspnoea, for about six weeks; and, latterly, there was some œdema of the feet. He was tapped, and is doing very well, showing a marked contrast to a patient in the

next bed to him, who had gone on for a long time with an effusion, and who now has empyema. He also spoke of a case where he had made a permanent opening, and put in a tube. The opening had healed, and the patient was discharged, well, although there was considerable contraction.

Dr. Tarbell spoke of a case in which Dr. Minot had made a permanent opening, by cutting down between the ribs, which had done very well; also of a case in his own ward, where pus showed signs of pointing near the cardiac region. This was opened, and nine pints of pus removed. The patient, however, not doing as well as was expected, after exploring with the pneumatic aspirator, Dr. Tarbell cut into the pleural cavity in the usual place, and put in a tube. The improvement since has been very marked, the patient having grown fat and strong.

Dr. Bowditch said that he had always advocated free opening in these cases, but that at the present time the fact of the patient's insisting upon having ether would modify his treatment in some cases. He knew of four cases, within a year, where thoracentesis had resulted fatally, and he felt sure that ether had a great deal to do with the result.

Dr. Ellis said that those cases where an operation was indicated, and the use of an anæsthetic was to be feared, would seem to be proper ones for the use of the atomizer with rhigoline, or some other freezing agent.

Dr. Lyman said that he was very glad that Dr. Bowditch had called attention to the possible danger in the use of ether in such cases, and was convinced that his idea was perfectly just and well-founded. He had reason to think that if the case he had just reported had been etherized, he would have died from the fact of the extreme dyspnœa, sense of constriction, and faintness, which followed (causing him much uneasiness for fifteen minutes), and which was only overcome by prompt and repeated stimulation, and by encouragement

of the patient to some personal effort, neither of which would have been available had he been paralyzed by ether. He farther said that the cause of the temporary distress was, doubtless, due to the removal of too much fluid at one sitting, the lung not being readily expansible, and the neighboring organs, especially the heart, being so suddenly dislocated to occupy the space from which the fluid had been removed.

Dr. Ellis asked Dr. Bowditch with regard to the indications for stopping in the operation, and whether the severity of the cough and the action of the pump were not the most reliable ones.

Dr. Bowditch said that a very severe fit of coughing would make him stop; but that he considered a moderate amount as rather a good sign, as it shows that the lung is expanding. What he considered the most important indication to cease drawing off the fluid was to be got from the feelings of the patient himself; namely, as soon as a sense of stricture or constriction across the chest was complained of, the operation should cease.

December 8th. — Dr. Tarbell showed the two cases of thoracentesis of which he had spoken at the last meeting, one of whom had been operated on by Dr. Minot, and the other by himself. They both were very satisfactory, the openings having healed, and percussion and auscultation showing that the lungs had returned to almost their normal condition. He then read the following paper:

"As the subject of empyema was brought up at the last meeting of this Society, and objections were raised to the etherization of any patient into whose thorax a free opening was to be made, I will report two cases which have lately been treated in the wards of the Massachusetts General Hospital, and will exhibit the patients.

"One case will show, as far as one case may, that ether is not necessarily unsafe in all cases of empyema. The other is a fair type of the cases where it is at least prudent not to give ether. Both cases will, I think, help

to show that the danger lies, not in making a free opening while the patient is etherized, but in etherizing while the lungs are so oppressed that the least addition to their burden causes asphyxia.

"I.—Katy H., thirteen years old, a mill-operative, was admitted to the hospital June 20, 1873. Her mother died of some lung disease. Her father is living and healthy. She has always been well until the present attack, which began two weeks previously, without known cause, with a short, hacking cough, but no expectoration. The next day Dr. Minot examined her, and found the usual symptoms of considerable fluid in the left pleural cavity, the heart being so dislocated that its impulse was heard and seen directly at the xiphoid cartilage. The next day Dr. Minot performed paracentesis, removing about three pints of purulent fluid with the syringe. She seemed relieved by the operation; but the next day the pulse and respiration began to grow worse again, increasing in frequency until the 30th, when the record reads, 'pulse 135; respiration 48; temperature 104.2°; cough urgent.'

"The patient having been fully etherized, Dr. Minot made an incision into the left pleural cavity, between the eighth and ninth ribs, below the scapula, allowing the escape of about a quart of inodorous pus. He then inserted a small rubber drainage-tube, and syringed out the cavity with water.

"On the second day afterward the patient came into my charge, her pulse having gone down from 135 to 100, the respirations from 48 to 30 per minute, and the temperature from 104° to 99.5°.

"The cavity was thoroughly syringed out, twice daily, with a weak solution of carbolic acid. Under good nourishment, mild stimulants, and no medicine except an occasional opiate, she steadily improved. In two weeks after the operation she was carried out into the garden. In four weeks, she walked out. In four and one-half weeks the discharge was but a

few drops daily, and the tube was removed. Its removal was premature, however, for in twenty-four hours she lost her appetite, became hot and feverish, with a pulse of 140, and temperature of 103°. The tube was replaced, the syringe practiced as before, and continued until October 17th, fifteen weeks after the operation, when the tube was finally removed. The wound healed in two weeks.

"At the time of the removal of the tube, the left side was much smaller than the right; but since then the lung and left side of the thorax have expanded, until they are now nearly as large as the right; and there is very little deformity. The heart has returned to its normal position. The respiratory murmur is good over the left front, and fair over the back, down to within about two inches of the cicatrix of the incision. The patient is fat and rosy, with good appetite and strength.

"II.—Manuel Antone, twenty-one, single, a Portuguese laborer, ignorant of our language, was brought to the hospital July 27, 1873, without any history except that he had been sick two months with cough, sharp pain in the left side, and, latterly, urgent dyspnoea.

"On examination, I found the symptoms of enormous distention of the left side of the thorax with fluid, which forced itself out between the ribs at some points, and was burrowing beneath and among the muscles in front of the chest. The heart was dislocated so far that its apex-beat was visible to the right of the sternum. He was literally gasping for breath.

"Without etherizing him, I made an incision through the skin and muscles, just below and to the outside of the left nipple, giving exit to four and a-half quarts of creamy, inodorous pus. The distention was so great that the pus was at first expelled in a large stream to a distance of ten or twelve inches from his body. He immediately expressed a sense of relief. A poultice was applied to the wound, and frequently changed. Pus

followed in large quantities from the incision, and the patient felt a little easier; but there were no means of determining the location of the perforation of the pleural cavity; and the serious symptoms did not abate. The pulse continued about 120, the respiration 34, and the temperature 102°.

"After waiting three days, I made another incision, plunging the knife directly into the left pleural cavity, between the ninth and tenth ribs, about four inches below and behind the angle of the scapula, giving exit to about two quarts of pus. A small rubber drainage-tube was introduced. The cavity was thoroughly syringed out twice daily with a weak solution of carbolic acid (twelve grains to the pint of water). Little or no pus came from the first incision after the drainage-tube was introduced. Stimulants and nourishing food were all the medicine he had.

"He improved steadily, with the exception of a single occasion when the tube became misplaced. In three weeks he began to sit up. In four weeks he was carried out into the garden. The discharge decreased slowly in amount until November 18th—sixteen weeks after opening the thorax—when the tube was finally removed. The wound quickly healed. The heart has returned nearly to its normal position. There is resonance over the left side down to a line drawn about one inch below the angle of the scapula, and respiration is heard nearly to this line. There is but little deformity, and there is no lateral deviation of spine.

"I think the successful results in these two cases are due to the persistence with which the wounds were kept open, and to the free drainage permitted by the tube, and also to the faithful and thorough daily syringing of the cavity, carried out by Mr. Rotch, the house-officer.

"I have here a very efficient, and at the same time simple, contrivance for retaining the drainage-tube securely. It was invented by Mr. Moseley, one of the present house-officers at the hospital. It is a rubber dia-

phragm, about one and one-half inches in diameter, and a strip of tin, two inches wide, through the center of which the tube passes, and to which it is easily made fast by adhesive plaster. The ends of the strip of tin are then bent sharply upward; the tube is inserted into the wound, the convex surface of the tin turned toward the thoracic walls, to which the ends are made fast by adhesive plaster, thus gently pressing the diaphragm against the wound, holding the tube firmly in place, and at the same time preventing leakage around it.

"To make the tin spring for retaining the drainage-tube in its place, take a strip of common sheet tin, one inch wide and ten inches long. In the middle of this make a hole just large enough to admit, but not constrict, the tube to be used. At a distance of three-quarters of an inch from this hole, on each side, bend the tin at a right angle, so as to form a letter U. At one inch from one of these right angles bend the tin at another right angle, in an opposite direction to the first. Pass a narrow strip of adhesive plaster around the U-shaped depression, so as to prevent its spreading. The tube is to be passed through the hole in the bottom of the U-shaped depression, which is to press against the diaphragm through which the tube passes. Pad the ends of the spring with cotton-batting, bend it to fit the form of the person to whom it is to be applied, and attach it with adhesive plaster.

"It was suggested at the last meeting that the symptom of a sense of constriction across the thorax, which is relied on as a warning of approaching danger, would be wanting if the patient were etherized. I believe it is conceded that this symptom is induced by the creation of a partial vacuum in the cavity of the thorax, which the lung cannot expand to fill. If a free opening is made with the knife, the air rushes in to replace the fluid flowing out—no vacuum is formed, and this objection does not hold.

"I believe, also, that it is not the

usual custom—it certainly is not at the hospital—to etherize for the removal of fluid by means of Dr. Wyman's suction-syringe, or aspirator.

"Of these two cases, the first was fully etherized; and she suffered no ill effects from the ether at the time of the operation, nor subsequently. The second was not etherized. The idea of using ether did not occur to me, nor was it suggested by any of the physicians or surgeons present. The patient seemed to be having as much as he could do to get breath, even aided by voluntary efforts; and it would have taken but a slight addition to the burden to have stopped his breathing altogether. A little more pus would have done it. Had I etherized him, and in doing so deprived him of the little oxygen he was getting, the ether would have been exactly as important an element in causing his death as the proverbial 'last straw' was 'in breaking the camel's back.' The previous load must be taken into account, and carefully estimated. It seems to have been pretty well demonstrated that a patient may be asphyxiated while being etherized for any operation.

"The additional danger in etherizing these cases lies in the fact that there is much less lung tissue in working-order, through which the system may obtain the necessary oxygen; but the danger is immediate; and I do not see how ether can be justly accused as the cause of death occurring ten days, or four days, after the operation. The idea of the knife plunged directly into the thoracic

cavity, and the pain also, is something terrible, and we would all wish to save our patients from such agony, if possible. I believe that many of these cases may be *safely* etherized, if it is slowly and carefully done."

Dr. Bowditch said that these cases show how surgical interference at the right moment may save life. He was still, however, of the same opinion as at the previous meeting, namely, that in cases where the effusion is so great as to seriously interfere with the respiratory function, ether should be given with great caution.

Dr. Ellis showed two patients, to illustrate the curved line of dullness in cases of pleuritic effusions, of which he had previously spoken. One of the patients had been tapped; in the other, the absorption had been spontaneous. Both showed, in a very marked manner, that the highest point of dullness was at the side, the line gradually falling as it approached the spine. This line was mapped out by the percussion so as to be evident from any part of the room. The respiration, he stated, also followed this line.

Dr. Minot spoke of one point, in connection with the case shown by Dr. Tarbell, in which a permanent opening had been made, namely, the very great advantage of syringing the pleural cavity out with a solution of carbolic acid. This so effectually controls the bad odor, which is always present in these cases, that, by this means, the operation can be done in a large ward, instead of having to isolate the patient as was formerly the case.

NOTES OF NEW YORK HOSPITAL PRACTICE.

From the New York Medical Record.

CHARITY HOSPITAL.

PNEUMONIA.—The remedies commonly employed in this hospital in the treatment of pneumonia, are quinine, carbonate of ammonia, and the alcoholics; occasionally, if the fever is too brisk, liq. ammon.

acetatis is administered. The oil-silk jacket is uniformly adopted. Quinine is administered from the beginning. Alcohol, as a rule, is early resorted to. Carbonate of ammonia comes in before the second stage becomes completely developed, and is

continued throughout the remaining portion of the course. Diet includes hospital extras. An effort was made by one of the visiting physicians to withdraw, somewhat at least, from this highly tonic and stimulating plan of treatment. Accordingly, liq. ammon. acetatis and tincture of aconite were recommended as the chief remedies to be employed during the earlier part of the disease; but the experiment proved so disastrous, the rate of mortality increasing so rapidly, that the attempt at reformation was at once abandoned.

The constitutional condition of the patients who find admission to this hospital, doubtless has a controlling influence upon the treatment necessary to be adopted in this class of diseases, if the best results would be obtained.

EXPECTORANT MIXTURE.—An expectorant mixture very commonly used in cases of chronic bronchitis, and with very good results, is the following: Ammon. muriat.; liq. morph. sulph. (Mag.), of each one drachm; syr. tolu; syr. scillæ co., of each one ounce. Mix. S. one drachm, t.i.d.

NIGHT-SWEATS OF PHTHISIS.—House-Physician Smith remarked that two grain pills of oxide of zinc t.i.d., has answered a better purpose in his division for controlling this symptom than any remedy that had been employed.

ACUTE ARTICULAR RHEUMATISM.—Dr. Smith also directed my attention to an external application to be used for the joints, during the progress of this affection. The following is the formula: Tinct. opii, one ounce; spts. chloroform, one and a half ounce; lin. saponis, ad., one pint. Mix. This liniment is applied freely over the joints, and immediately covered with cotton and oil-silk. The relief from pain afforded by this application has been very gratifying to all his rheumatic patients. The general treatment is alkaline.

IRRITABLE STOMACHS.—The case to which my attention was directed, was one in which the ordinary irrita-

bility of stomach associated with phthisis, required special treatment. The method of treatment, however, is almost uniformly adopted when an irritable condition of the stomach manifests itself in connection with any chronic disease. The remedy is *raw beef*, chopped fine, and seasoned with salt, pepper, and vinegar. The patient is to subsist entirely upon beef prepared in this manner. Dr. Smith remarked that this plan had, in his wards, seldom failed to afford relief to this condition, when associated with any chronic affection.

SILICATE OF SODA IN THE TREATMENT OF FRACTURES.—House-Surgeon Pierce informed me that he had employed the silicate of soda in his division in the treatment of fractures equally as much as he had employed PLASTER-OF-PARIS. The soda splint has furnished very pleasing results, and, when carefully applied, makes a most elegant and serviceable splint. Three bandages are ordinarily used, the limb being coated over with the silicate, after the application of each bandage. It is also well, and perhaps always advisable, to add narrow strips of pasteboard as the bandages are being applied. Extension, in the proper direction, must be maintained until the splint is thoroughly dried.

ACETIC SPRAY IN DIPHTHERIA.—Diphtheria, scarlet fever, typhus and typhoid fevers, and small-pox, constitute a group by themselves.

By present arrangement this department falls under charge of the hospital staff, as one of the branches of "Out-door Service." Dr. Partridge, House-Physician, mentioned that, with regard to diphtheria, very satisfactory results had been obtained in the local treatment of the disease by the use of acetic acid, in solutions of varying strength, in the form of spray. The remedy is used by means of the so-called atomizer. It seems to have the power to dissolve the membrane, and in several cases, where well-developed and somewhat advanced croupy symptoms were present, all were relieved, and that quite speedily, by the use of this agent. The admin-

istration of alcoholics is governed by the condition of pulse and temperature. The rate of mortality is small.

ITCHING AND PITTING IN SMALL-POX.—To relieve the intense itching which attends this eruption, washing the surface with glycerine and water acts as if by magic.

To prevent pitting, one of the visiting physicians recommended the use of tr. iodine. The remedy should be employed, if possible, before vesicles are formed. It is to be applied once a day. The effect of this remedy has not been sufficiently noted in the Small-Pox Hospital to warrant any conclusion relative to its value in this direction.

It was used, in one case, after the eruption had been vesicular for one or two days, but before it had become pustular; and only a moderate amount of pitting followed. Whether the adoption of an *ectrotic* plan of treatment will not do the patient more harm than can be counterbalanced by the benefit arising from a moderate arrest of pitting, or even a complete prevention of pitting, is, in many cases, thought to be a question worthy of consideration.

To prevent the formation of abscesses, the combined hypophosphites have served a very excellent purpose. One patient had eight abscesses, and another four, at various situations on the body, and all had rapidly healed under the influence of this combination treatment. In several instances, threatened formation of abscess had been dispelled. The influence of this remedy, therefore, was looked upon with favor, for the reason that abscesses, under such circumstances, are not infrequently attended with *grave* results.

BELLEVUE HOSPITAL.

HÆMORRHAGES.—This class of difficulties, such as hæmoptysis, hæmorrhage from bowels, hæmaturia, hæmatemesis, and hæmorrhages from the uterus, are treated upon this division most satisfactorily by the use of spirits of turpentine. The remedy is

commonly administered in ten drop doses, repeated every two hours.

IODIDE OF POTASSIUM IN ANEURISM.—Our attention was directed to a case of thoracic aneurism, in which nearly all the distressing symptoms had disappeared since the patient had been placed upon large doses of iodide of potassium.

PNEUMONIA.—Quinia will reduce the temperature and pulse of pneumonia, with a good deal of certainty. Such an effect is beneficial. It requires large doses to accomplish this. It is customary to give pneumonic patients ten grains in the morning, and fifteen grains at night, or ten grains morning and night.

CARBOLIC-ACID OINTMENT FOR SCABIES.—Its success warrants farther trial.

MONARTHROTIC CASE.—Cardiac complication had occurred since admission to the hospital. The case shows the importance of correct diagnosis, in order that the patient may receive the greatest benefit from treatment.

HÆMORRHAGE FROM THE LUNGS.—There were some features of interest in connection with this case. The patient was aged twenty-eight, single, and a domestic. Mother died of consumption. One year previous to her admission, suffered from a sudden attack of hæmorrhage from the lungs. Soon after she began to lose strength, had night-sweats, and lost her appetite. Pain, especially beneath the scapula. Has suffered from several severe hæmorrhages. She has mitral regurgitation.

Hæmoptysis with mitral regurgitation, is a point of interest.

Mitral obstruction is the usual cause of hæmoptysis, when dependent upon cardiac disease.

If the hæmorrhages are profuse, it is hardly warrantable to conclude that they are due to cardiac lesion.

If regurgitant lesion alone exists, it is never warrantable to say that the hæmoptysis is dependent upon a cardiac cause.

The patient has improved since her admission to the hospital.

IMPROVEMENT IN A CASE WHERE THERE HAS BEEN REPEATED AND PROFUSE HÆMORRHAGES FROM THE LUNGS.—This is another point of interest. In general, patients do better when hæmorrhages from the lungs occur, if they are phthisical patients; and they are also rather more likely to recover than those who do not have such hæmorrhages; or, if they do not recover, they are apt to have an arrest of the disease. These facts can be used for the encouragement of patients.

Such were some of the interesting features of the case we were visiting, as drawn out by the visiting physician.

THE INFLUENCE OF POSTURE ON "PRESYSTOLIC" CARDIAC MURMURS.—The influence of posture in altering or removing cardiac murmurs, forms the subject of a valuable paper by W. R. Gowers, M.D., in *The Practitioner* for December, 1873. Dr. Gowers states that several cases have come under his notice in which, after a careful and skilled examination in the erect posture, a heart has been declared free from murmur, when, had the patient been made to lie down, a bruit would have been heard, which could not have been overlooked. He believes that, in most instances, the murmur which precedes the first sound, and is commonly regarded as characteristic of mitral obstruction, is both louder and longer in the recumbent than in the erect posture, and that in many instances, more frequently than in the case of any other cardiac murmur due to an organic cause, it may be heard in one posture and not in another—may be loud when the patient is lying down, and inaudible when he is standing up.—*Boston Medical and Surgical Journal*.

DEATH FROM INHALATION OF THE PRODUCTS OF COMBUSTION IN AN OPEN FIREPLACE WITH A CHIMNEY.—A man and his wife, both strong and healthy, went to bed in a room in the fireplace of which a fire had been lighted shortly previous. During the night, the

woman awoke with symptoms of suffocation—arose, but staggered about, and fell to the floor. The husband rose to aid her; tried to light the gas, and failed, but likewise fell to the floor unconscious. When discovered in the morning, the man was dead; while the woman was so far gone that she was with difficulty resuscitated. The theory with regard to the death was, that the night being a very stormy one, and the fire small, the wind, blowing sharp and steady over a low chimney, acted as a damper, and effectually prevented the gases from making their escape by the way provided for them.—*Edinburgh Medical Journal*, January, 1874.

NEURALGIA IN INFANTS.—Children from two to six weeks old, especially males, suffer frequently with attacks of pain in the bowels, coming on about midnight, and lasting until four or five in the morning. Children thus affected cry violently, but towards morning become quiet, fall asleep, and the next day are well as ever. This enteralgia does not seem to be caused by any fæcal accumulations; it is very noticeable, however, that during the paroxysm they pass no water, and at the end of it a large quantity of pale-colored urine comes away, as after a hysterical attack. The cause of this retention of urine is unknown. The disease affects children of all classes of society, indiscriminately, without reference to their hygienic condition. The remedy recommended by Dr. Boyd (*Edinburgh Medical Journal*, Feb., 1873; *Schmidt's Jahrbucher*, 1873, No. 2) is spiritus ætheris nitrosi, eight or ten drops in a drachm of water. Immediately after, with escape of wind and the passage of a considerable quantity of urine, the crying ceases, and the little patient goes to sleep.—*Boston Med. and Surg. Journal*.

VIENNA is now supplied with clear spring water, at a temperature of 50 degrees F., brought from the heights of the Sœmmering, a distance of about seventy miles.

Book Reviews.

A CLINICAL History of the Medical and Surgical Diseases of Women. By Robert Barnes, M.D., London, Fellow and Lumleian Lecturer (1873) Royal College of Physicians; Examiner in Obstetrics and the Diseases of Women, at the University of London and the Royal College of Surgeons; Obstetric Physician, and Lecturer on Obstetrics and Diseases of Women, to St. Thomas' Hospital. Philadelphia: Henry C. Lea, 1874.

We gladly welcome this new work on Diseases of Women, by Dr. Barnes, who has long been considered high authority in this branch of medicine. The author states that the design of the work is not so much for the specialist, as "to give such a description of the medical and surgical diseases of women as will assist the medical practitioner in their diagnosis and treatment." Each subject, however, seems to be carefully and adequately discussed; and the introductory chapters, on the minute anatomy as applied to the sexual system, are exceedingly full and valuable. One chapter contains a description of different gynæcological instruments, in which we notice nothing new; and the remainder of the book is devoted to the diagnosis, pathology, and treatment of female diseases proper. The text is handsomely illustrated, and the engravings are nearly all new, not copied from other works which have long been familiar to us, but taken from actual pathological specimens, preserved in the museums of the London hospitals.

Among other new things, the author has introduced many new words of Greek origin, which he proposes as new names for some diseases, because, as he believes, they express more accurately their description, or pathology.

These new names may be more scientific, or more classical, yet we are inclined to be partial to the old ones.

As regards treatment, it is noticeable how frequently Dr. Barnes recommends the use of the pessary as a means of bringing about a cure. He says: "If pessaries are found useful, it matters little whether they satisfy the conditions of science. That thousands of women find comfort and benefit from their use, is a fact too notorious to be disputed. Still, it is asserted that their usefulness, being only palliative, and temporary, and science supplying modes of treatment which are curative, pessaries should be discarded. If the premises are true, we could not reject the conclusion. But they are not true; and a wide field is still left for study, and the application of various modes of treatment, according to the various forms of the malady." Undoubtedly, many women have found comfort and benefit from their use, yet it is the experience of many gynæcologists that as many women, if not more, have received decided harm and injury from them. How often does it happen that a physician introduces a pessary, perhaps intending it only as a palliative, and temporary treatment, and the patient goes away half comprehending what is intended, and does not return till the instrument has produced a state of things worse than the original disease? Too many worthless, if not injurious, pessaries, are being offered to the profession; and the least objectionable ones, in our opinion, should only be used as a last resort,

when all curative measures have failed to meet the circumstances of the case.

Tumors of the uterus are treated at length, including the latest investigations, and many practical points are suggested. Cancer of the uterus has received the attention which the importance of the subject demands. In a word, the treatise is thoroughly practical, drawn from a rich personal experience, and is entitled to a place among the leading works on diseases of women.

W. H. W.

The Chicago Journal of Nervous and Mental Disease. Edited by J. S. Jewell, M.D., and H. M. Bannister, M.D., January, 1874.

The first number of this new periodical is before us, containing 114 neatly printed pages; and is filled with a good variety of most interesting articles. The first of these is a lecture on "The Pathology of the Vaso-Motor Nervous System," occupying seven-teen pages, by the senior editor. Another article, occupying fourteen pages, is an abstract of a lecture at St. Petersburg, by E. Cyon, "On the Relations of the Heart's Action to the Nervous System, and to Mental and Emotional States." These two leading articles are worth more than the price of the *Journal* for one year. But the editors, by translations, abstracts, and selections, have filled every page of this number with matter of interest and value. From what we know of the ability and industry of the editors and publishers, we assure our readers that they will find it all that it claims to be. It will be published quarterly, at \$4.00 per annum; single copies, \$1.00. Address, the editors, 57 Washington street, Chicago.

N. S. D.

Annual Report of the Supervising Surgeon of the Marine Hospital Service of the United States, for the Fiscal Year 1873 (July 1, 1872 to July 30, 1873). By John M. Woodworth, M.D. Washington: Government Printing Office, 1873. pp. 154.

Dr. Woodworth has certainly accomplished much in the way of reform in the Marine Hospital Service, by his energy and untiring perseverance; and is fairly entitled to the congratulations of the profession. The present is the second of his official reports which have been printed for distribution, and it bears internal evidence of improvement in the general management and construction of hospitals, and their recent direction to scientific methods of examination, treatment, and record. Appendix "B," of this report, "On the Natural History of Yellow Fever in the United States," is from the pen of Dr. J. M. Toner, of Washington, so favorably known in connection with the foundation of the Toner Lectures. It is illustrated by a chart of elevations above the sea-level, of localities where the disease has prevailed. This is exceedingly valuable as an aid to the study of the ravages of yellow fever upon this continent.

The Supervising Surgeon has a grand field before him; but he has, also, a duty to perform, which, if it be not well discharged, will almost neutralize his other achievements—it is the complete separation of the Marine Hospital Service of the United States from all political control. Science, when shadowed by the upas-tree of politics, is a dwarfed and defenceless object of pity. Dr. Woodworth understands this; and we unite with all who wish him success in his efforts to uproot the gigantic evil. "*Macte virtute esto.*"

J. N. H.

Lectures on the Clinical Uses of Electricity. Delivered in the University College Hospital. By J. Russell Reynolds, M.D., F.R.S., Fellow of the Royal College of Physicians, etc. Second Edition. Philadelphia: Lindsay & Blakiston, 1874. pp. 118.

Galvano-Therapeutics; a Revised Reprint of a Report made to the Illinois State Medical Society, 1873. Philadelphia: Lindsay & Blakiston, 1873. pp. 64.

The therapeutic uses of electricity and galvanism are little understood by general practitioners of medicine; and those who have specially investigated the subject are far from being in accord as to the methods of treatment, and the diseases in which such treatment is indicated. That volume has yet to be written which will, on the one hand, satisfy the actual needs of the profession, and, on the other, be fully received as an authority by those who are in the advance of electro-galvanic science. As an *avant-courier* of this book of the future, each of the volumes before us deserves the attention of those who desire to be familiar with the literature of the subject.

As regards the subject of electricity and galvanism in cutaneous disorders—a field recently developed by the researches of Beard, of New York, and which, judging from his published papers, promises abundant harvests for its explorer—we note that the English author is entirely silent, and the American has but little to offer. This fact is an index of the relative practical value of the two volumes.

The Nature of Gunshot Wounds of the Abdomen, and their Treatment; based on a Review of the Case of the Late James Fisk, Jr., in its Medico-Legal Aspects. By Eugene Peugnet, M.D., Surgeon to the Northwestern Dispensary, &c. New York: Wm. Wood & Co., 1874. pp. 96.

A scholarly and well-written monograph, fortified at every point by authoritative citations, and lucid in every detail, is rather a matter of surprise

in these days of loose authorship. Dr. Willard Parker may well feel complimented by the dedication to him of this labor of his former pupil.

One cannot avoid concurring with the author, after a perusal of his premisses, in the following conclusions, deduced from the medical jurisprudence of this *cause celebre*:

1. The shooting of Fisk was not done in self-defence; but with premeditation.

2. The abdominal wound was not necessarily fatal; and the morphia administered was the immediate cause of death.

"He who profits by his blunders is least likely to commit them."

A Handbook of Medical and Surgical Reference. By John A. Wyeth, M.D., Member of the New York Pathological Society, &c. New York: Wm. Wood & Co. 1873. pp. 279.

This little volume is intended, mainly, as the author declares in its introduction, "to assist the young practitioner in his labors." It contains information which should properly be stored, in large part, in the minds of old and young practitioners alike. But if this were the case, the usefulness of the little manual might be impaired, and so we may be sure, in either case, the information is available. The book is bound with a fold for convenience of the pocket.

BOOKS RECEIVED.

Treatment of Nervous and Rheumatic Affections by Static Electricity. By Dr. A. Arthius, translated from the French by Dr. J. H. Etheridge, M.D. Chicago: W. B. Keen. Cooke & Co. 144 pp. Price, \$2.00.

A Treatise on Therapeutics, comprising Materia Medica and Toxicology. By H. C. Wood, Jr., M.D. Philadelphia: J. B. Lippincott & Co.

Relations of Colorado to Pulmonary Consumption. By Thos. E. Massey, A.M., M.D., Denver, Col. Pamphlet; 26 pp.